



Opening a window to quantum weirdness

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If you lived according to quantum laws, you could pass ghost-like through solid objects, become one with other entities, or exist spread out over all of space at once. Sadly, solid walls are impervious to us; we can get close to other people but never truly blend into one being; and we may grow throughout our lives, maybe even a bit more than we'd like, but we will never know what it's like to occupy more than a couple of cubic meters of space at a time.

Although the weirdness of the quantum world is almost unbelievable, scientists have proven time and time again that counterintuitive quantum laws govern the realm of molecules, atoms, and subatomic particles. We and everything we see around us, on the other hand, follow the familiar rules of so-called classical physics despite the fact that, at some level, we are made of quantum pieces.

How do we reconcile the two worlds? How, as we zoom out from the very small to human scales, do we transition from quantum to classical rules? What happens on the brink of the two worlds as we move from one to the other?

Those questions have irked and entertained scientists since quantum mechanics was discovered nearly a century ago. The answers have been debated and argued in research papers and conferences ever since. One potential way to understand the intersection of the two worlds is by building quantum device to directly observe the transition between the quantum and classical worlds with our classical microscopes, cameras, and even our eyes.

Researchers at Los Alamos National Laboratory have developed a prototype that may soon allow us to do just that. The Superconducting Quantum Interference Device (SQUID) is only a fraction of the diameter of a human hair, but it's much larger than most things that follow quantum laws. Unlike atoms and individual molecules, the SQUID is potentially visible under a microscope, and the research team expects to make bigger versions in the future.

Read the rest of the story as it appeared in the [Santa Fe New Mexican](#).

